

Name _____

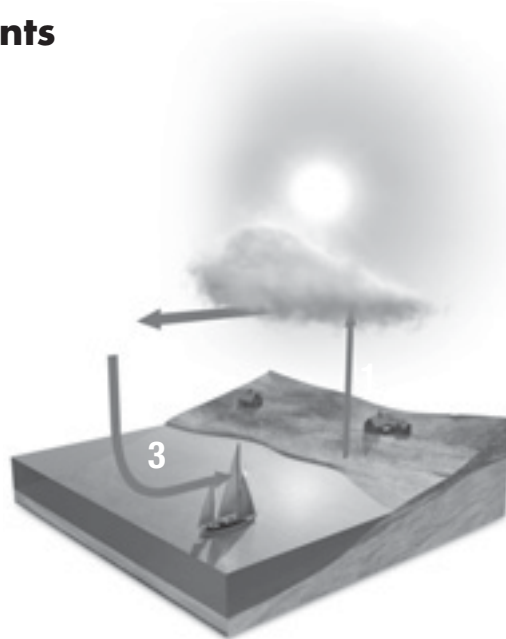
How does air move?

Read the lesson. Tell why high air pressure is located near Earth's surface.

Write the number of each description on an arrow where it belongs on the diagram.

1. Warm land makes air above it warm. It is forced up by cool air coming across the water, causing sea breezes.
2. As cool air moves under the warm air, wind is created. Cool sinking air has high air pressure.
3. The cool water will not warm the air above it as much as the land warms the air above it. The cool air sinks below the warm air.
4. Rising air will cool. It stops rising when it is the same temperature as surrounding air. This cooled air is pushed over the water by the rising air below it.

Convection Currents



Notes for Home: Your child labeled a diagram for convection currents. Ask your child to explain the Convection Currents diagram.

Name _____

How does air move?

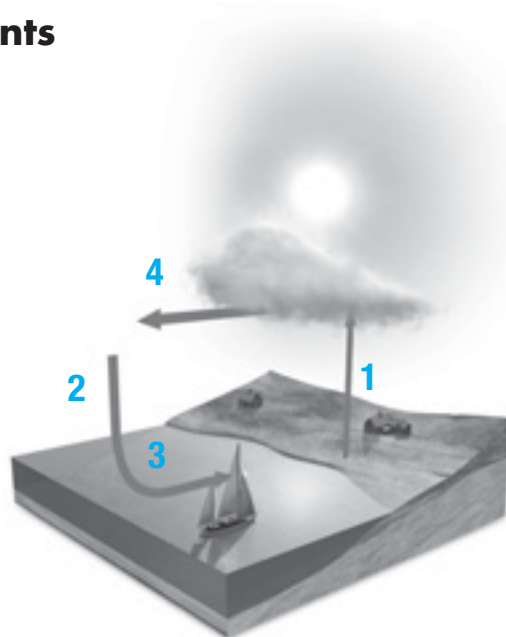
Read the lesson. Tell why high air pressure is located near Earth's surface.

Near Earth's surface, air particles are squeezed close together by the weight of the air above. This creates high air pressure.

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Convection Currents



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What are air masses?

Read the lesson. Identify the air mass described.

Air mass over warm waters or rainforests becomes very humid because of water easily evaporating

The land in the far north or far south is not very moist. The air mass from here is cold and fairly dry.

A large desert area can warm the air above it, making it a warm, fairly dry air mass.

The ocean in the far north or south is cold, but evaporation does occur. Air mass forming over it is cold, but relatively moist.

Write *cold front* or *warm front* next to each description.

- 1.** Cool air moving in causes warm air to move up quickly.

- 2.** Rising air forms cumulus clouds along a steep boundary.

- 3.** Warmer air moves against cooler air.

- 4.** Heavy precipitation often falls.

- 5.** Warm air gradually rises above cooler air.

- 6.** Clouds often move slowly resulting in long periods of precipitation.



Notes for Home: Your child identified characteristics of moving air masses. Ask your child to draw a diagram that shows a cold front or a warm front as he or she explains the air movement to you.

What are air masses?

Read the lesson. Identify the air mass described.

Maritime Tropical Air

Air mass over warm waters or rainforests becomes very humid because of water easily evaporating

Continental Polar Air

The land in the far north or far south is not very moist. The air mass from here is cold and fairly dry.

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warm front



Notes for Home: Your child identified characteristics of moving air masses. Ask your child to draw a diagram that shows a cold front or a warm front as he or she explains the air movement to you.

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What causes severe weather?

Read the lesson. Then write each phrase in the chart where it fits.

 common in southern and
southeastern Asia

 about 1,000 in the United States
every year

 a wind that changes direction
with the seasons

 winds moving at hundreds of
kilometers per hour

 rotating column of air that extends
from a cloud to the ground

 driven by heat energy released by
condensing water vapor

 can result in dry season and a
season of heavy rains

 can last for days and cause huge
waves and flooding from heavy rains

energy from ocean water

funnel cloud

can be brought by a thunderstorm

eye with gentle winds and no rain

Tornado	Hurricane	Monsoon



Notes for Home: Your child identified characteristics of severe weather. Talk with your child about safety measures to follow during severe weather in your area.

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Tornado	Hurricane	Monsoon
can be brought by a thunderstorm rotating column of air that extends from a cloud to the ground funnel cloud winds moving at hundreds of kilometers per hour about 1,000 in the United States every year	energy from ocean water driven by heat energy released by condensing water vapor can last for days and cause huge waves and flooding from heavy rains eye with gentle winds and no rain	common in southern and southeastern Asia a wind that changes direction with the seasons can result in dry season and a season of heavy rains



Notes for Home: Your child identified characteristics of severe weather. Talk with your child about safety measures to follow during severe weather in your area.

How are weather forecasts made?

Read the lesson. Use the words in the box to complete the sentences.

anemometer	barometer	computer	Doppler radar	hygrometer
rain gauge	satellites	telegraph	weather balloons	weather maps

1. Forecasters use symbols and colors to display their data and predictions on _____.
2. The moisture in the air is measured by a _____.
3. A _____ shows air pressure.
4. An _____ is used to measure wind speed.
5. A _____ measures the amount of rain that has fallen.
6. By using the _____ to share information, weather forecasters could see patterns and make more accurate forecasts.
7. First launched in 1927, _____ carry instruments high into the atmosphere.
8. _____ orbiting Earth take pictures of clouds and can show temperatures and the amount of moisture in the air.
9. _____ is a new form of radar that can measure precipitation and air motion.
10. A _____ can analyze and map weather data to make predictions about changes in weather.



Notes for Home: Your child identified tools used in weather forecasting. Ask your child to list the weather tools used on local television forecasts. Encourage your child to track the accuracy of the predictions.

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- Forecasters use symbols and colors to display their data and predictions on weather maps.
- The moisture in the air is measured by a hygrometer.
- A barometer shows air pressure.
- An anemometer is used to measure wind speed.
- A rain gauge measures the amount of rain that has fallen.
- By using the telegraph to share information, weather forecasters could see patterns and make more accurate forecasts.
- First launched in 1927, weather balloons carry instruments high into the atmosphere.
- Satellites orbiting Earth take pictures of clouds and can show temperatures and the amount of moisture in the air.
- Doppler radar is a new form of radar that can measure precipitation and air motion.
- A computer can analyze and map weather data to make predictions about changes in weather.



Notes for Home: Your child identified tools used in weather forecasting. Ask your child to list the weather tools used on local television forecasts. Encourage your child to track the accuracy of the predictions.